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EXAMINER	
NGUYEN, HAI V	

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2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,715	LEE ET AL.	
	Examiner	Art Unit	
	HAI V. NGUYEN	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15/05/2008 and 08/04/08*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02/15/2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the communication received on 15 May and 04 August 2008.

2. Claims 18-19, 21 were cancelled.

3. Claims 1-17, 20 are presented for examination.

Response to Arguments

4. Applicant's arguments filed on 15 May and 04 August 2008 have been fully considered but they are not persuasive. Applicant's arguments are deemed moot in view of the following new ground(s) of rejection as explained here below, necessitated by Applicant's substantial amendment to the claims1-17, 20 which significantly affected the scope thereof.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the elements of "*(b) after receiving the message from the BM_SC, the CBC commands a Universal Mobile Telecommunication System (UMTS) Terrestrial Radio Access Network (UTRAN) connected with the CBC by a message to send the MBMS announcement message"* in claim 1, of *"(b) after receiving the data sent by BM_SC, the GGSN send the data to a Service GPRS Supporting Node (SGSN)"; "(f) after receiving data from the SGSN, the UTRAN arranges time for sending a MBMS notification message" in claim 10, of "(b) after receiving said data sent by the BM_SC, the GGSN sends said data to a Service GPRS Supporting Node (SGSN) by tunneling technique; (c) after receiving signals from*

the GGSN, the SGSN informs a Universal Mobile Telecommunication System (UMTS) Terrestrial Radio Access Network (UTRAN) of forthcoming MBMS data via a signaling message" in claim 15; and of *"the UTRAN and other apparatuses in the core network co-release network resources used for the MBMS broadcast service"* in claim 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The amendment filed on 15 May 2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

7. In the amended specification and claims 8, 9, the element of "RRC" is amended as Radio Resource Communication. However, the subject matter of the element of RRC actually is disclosed in prior art including a common inventor or the same inventive entity (Chang et al. US 200/0174678 A1) in which it is the Radio Resource Control layer 1402 (see Figures 5).

Applicant is required to amend or cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 1 recites the limitation "(b) after receiving the message" in claim 1. There is insufficient antecedent basis for this limitation in the claim 1.

11. Claim 10 recites the limitation "(b) after receiving the data sent by BM_SC, the GGSN sends the data to a Service GPRS Supporting Node (SGSN)"; "(c) after receiving

signals from the GGSN…", "(f) after receiving data from the SGSN, the UTRAN arranges time for sending a MBMS notification message" in claim 10. There is insufficient antecedent basis for this limitation in the claim 10.

12. Claim 13 recites the element of "…and saves the message..." in claim 13. There is insufficient antecedent basis for this limitation in the claim 13.

13. Claim 15 recites the limitation "(b) after receiving said data sent by BM_SC, the GGSN sends said data to a Service GPRS Supporting Node (SGSN) by tunneling technique"; "(c) after receiving signals from the GGSN…" in claim 15. There is insufficient antecedent basis for this limitation in the claim 15.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claims 1-17, 21 are rejected under 35 U.S.C. 102(e) as being anticipated by **Yi** et al. **US 2004/0105402 A1.**

16. As to claim 1, Yi discloses a method for transferring a service announcement of Multimedia Broadcast/Multicast Service (MBMS), the method comprising:

(a) Broadcast/Multicast Service Center (BM_SC) *(Figures 7-10, multimedia layer of the UTRAN)* requests Cell Broadcast Center (CBC) *(Figures 9, multimedia layer of the*

UTRAN) to send a service announcement message *(a MBMS scheduling message)*, wherein said request includes sending times and sending time duration as parameters *(Figures 9, the UTRAN constructs an MBMS scheduling message including time information on when specific data is to be transmitted for a specific MBMS, step 30)*;

(b) after receiving the message from the BM_SC, the CBC commands an Universal Mobile Telecommunication System (UMTS) Terrestrial Radio Access Network (UTRAN) connected with the CBC by a message to send the MBMS announcement message *(Figure 9, the UTRAN constructs an MBMS scheduling message including time information on when specific data is to be transmitted for a specific MBMS, step 30)*;

(c) the UTRAN arranges a time *(a time interval and a period that the time interval is repeated, [0088])* for sending the MBMS announcement message at one or more schedule periods according to a CBC requirement, adds a brief description information to a schedule message *(a frame allocation information of specific MBMS service, [0088])* that describes each of the schedule periods and sends the schedule message *(Figure 9, the UTRAN constructs the MBMS scheduling message including time information on when specific data is to be transmitted for a specific MBMS to the multimedia layer of a terminal group, step 30)*; and

(d) the UTRAN sends the MBMS the announcement message *(Figure 9, the UTRAN transfers the MBMS scheduling message including time information on when specific data is to be transmitted for a specific MBMS to the multimedia layer of a terminal group, step 31)*.

17. As to claim 2, Yi discloses, wherein transfer times in step (a) can be a plurality of times or an infinite number of times *([0088], [0172])*.

18. As to claim 3, Yi discloses, wherein after finishing sending the MBMS announcement message, the UTRAN sends confirmation information to the CBC *([0088], [0172])*.

19. As to claim 4, Yi discloses, wherein after receiving the confirmation information from the UTRAN, the CBC subsequently returns confirmation information to the BM_SC *([0088], [0172])*.

20. As to claim 5, Yi discloses, wherein in the step (b), according to a requirement of the BM_SC, the CBC requires the UTRAN to send the service announcement periodically a plurality of times *([0172], [0178])*.

21. As to claim 6, Yi discloses, wherein in step (d), the UTRAN sends the MBMS announcement message a plurality of times according to the CBC requirement, and steps (c) and step (d) are repeated a plurality of times without a certain precedence order *(Figs. 7-10, [0178], [0185])*.

22. As to claim 7, Yi discloses, wherein the service announcement message includes parameters of service types and service areas of the MBMS *(Figs. 7-10, [0178], [0185])*.

23. As to claim 8, Yi discloses, wherein the step of the UTRAN sending a service announcement message that includes the service types and service areas of the MBMS via the CBC further comprises the following steps:

(1) a MBMS Control Module (MBMSC) receives a signaling message *(Fig. 1, an Iu signaling connection, col. 7, lines 20-27)* from core network nodes Service GPRS

Supporting Node (SGSN), CBC *(Fig. 1, element 108)*, which informs the UTRAN to send the MBMS announcement message *(Figs. 7-10, [0172], [0173], [0174])*;

(2) the MBMSC requests a Broadcast/Multicast Control (BMC) protocol *(BMC, [0172])* to send the MBMS announcement message *(Figs. 7-10, [0172], [0173], [0174])*;

(3) the BMC constructs the MBMS announcement message and saves the MBMS announcement message in a sending memory block thereof, and starts up a counter for this message, wherein an initial value of the counter is equal to a number of required times of sending the message, and if the MBMS announcement message is required to be sent infinite times, the initial value of the counter is assigned with zero or negative value *(Figs. 7-10, [0172], [0173], [0174], [0182], [0183])*;

(4) the BMC estimates a transmission rate (Vneed) needed on a Common Traffic CHannel (CTCH) *(Figure 3)* according to all messages currently saved in the sending memory block, wherein all of the messages include the MBMS announcement messages and other broadcast messages, and if an actual transmission rate (Vctch) on the CTCH is zero (0), the cell has not allocated CTCH resources and won't continue to send broadcast message, and if the actual transmission rate (Vctch) is out of required range on the CTCH, the BMC reports an actual required transmission rate to Radio Resource Communication (RRC) with a primitive and requests the RRC to establish or adjust CTCH resources, and during a period of BMC waiting for RRC configuring CTCH resources, if the actual transmission rate (Vctch) does not match with that needed but is not equal to zero: when the actual transmission rate (Vctch) is smaller than that needed, the BMC may still select some messages, with high priority and short length to transfer;

when the actual transmission rate (Vctch) is out of a required range, the BMC also reports to the RRC, but at this time, resources on the CTCH exceeds a requirement of message transmission, and are wasted *(Figs. 7-10, [0172], [0173], [0174], [0182], [0183])*;

(5) the RRC *(Figs. 7-10, RRC elements)* controls L1 and L2 *(Figs. 7-10, L1/L2 elements)* with the primitive to establish CTCH *(Fig. 3)* or adjust CTCH configuration so as to make CTCH transmission rate match, and informs the BMC of new configuration parameters of CTCH with the primitive, and only if the actual transmission rate (Vctch) is not equal to zero, the BMC will still continue to send broadcast messages as described in step (4) *(Figs. 7-10, [0172], [0173], [0174], [0182], [0183])*;

(6) the BMC adds descriptions for the MBMS announcement message to a pending-for-sending schedule message, and then arranges the MBMS announcement message on a specific position of the schedule period following the schedule message for future sending *(Figs. 7-10, [0172], [0173], [0174], [0182], [0183])*;

(7) the BMC sends the schedule message *(Figs. 7-10, [0152])*;

(8) the BMC sends the MBMS announcement message at a prescribed time *(Figs. 7-10, [0172], [0173], [0174], [0182], [0183])*;

(9) after reducing the counter's value by 1, the BMC determines whether the value of the counter is negative, in which case the MBMS announcement message is required to send for infinite times, then proceeding to step (10) after adding 1 to the value of the counter; if the value of the counter is positive, proceeding to step (10) directly; if the value is zero, the times of sending the MBMS announcement message has met the

requirement, then the BMC returns confirmation information to the MBMSC and the process of sending the MBMS announcement for completed times *(Figs. 7-10, [0172], [0173], [0174], [0182], [0183])*;

(10) the BMC waits on-timing according to a time interval that the MBMS announcement message is required to send, and when time expires for sending a next MBMS announcement message, proceeding to step (6) *(Figs. 7-10, [0172], [0173], [0174], [0182], [0183])*.

24. As to claim 9, Yi discloses, wherein the step of User Equipment (UE) *(Figs. 6, 7-10, terminal element)* receiving the service announcement message for the parameters of the Service types and service areas of MBMS via cell broadcast *(Figs. 7-10)* further comprises:

(1) a MBMS Control Module (MBMSC) sends a request for receiving the MBMS announcement message to the BMC with a first primitive *(Figs. 7-10, Multimedia layer of the UTRAN element)*;

(2) if the BMC has never received any broadcast message before, proceeding to step (3); otherwise, proceeding to step 9);

(3) the BMC informs the RRC to receive a broadcast message with a second primitive, which includes parameters that can inform RRC to receive BMC preferred message at a prescribed time and to skip some messages *(Figs. 7-10)*;

(4) if the RRC has not configured a Common Traffic Channel (CTCH) before, the RRC configures link layer (L2) and physical layer (L1) to enable UE to receive information on the CTCH and feeds back necessary CTCH configuration information with a third

primitive to the BMC at the same time, thereafter proceeding to step (5); if the RRC has configured CTCH resources before, proceeding to step (5) directly;

(5) according to requirement of the BMC, the RRC controls L2 and L1 with a fourth primitive to receive cell broadcast information on CTCH at the prescribed time *([0088])*;

(6) after processing a data frame received from the CTCH accordingly, L1 and L2 submit the data frame to BMC in the format of BMC message with a fifth primitive *(Figs. 7-10, L1/L2 element)*;

(7) BMC analyzes the received message, and if the received message is a MBMS announcement message, the BMC forwards the received message to the MBMSC with a sixth primitive, and at the same time, reception of this time is completed *(Figs. 7-10, [0172], [0173])*; if it is not a MBMS announcement message, proceeding to step (8);

(8) if the message received by BMC is a schedule message *([0176])*, proceeding to step (9); otherwise, proceeding to step (3);

(9) if the BMC analyses the schedule message received most recently, and checks if the schedule period described by the schedule message includes the MBMS announcement message, if so, proceeding to step (12); otherwise, the BMC finds a position of the next schedule message and requests the RRC to receive the next schedule message with the second primitive *(Figs. 7-10)*;

(10) the RRC controls L1 and L2 with the fourth primitive to receive the next schedule message at the prescribed time *([0088], [0089]*;

(11) after processing the message received from the CTCH accordingly, L1 and L2 forward the schedule message to the BMC with the fifth primitive, and then proceeding

to step (9) *(Figs. 7-10)*;

(12) the BMC finds the position of the MBMS announcement message and requests the RRC with the second primitive to receive the MBMS announcement message at the prescribed time *(Figs. 7-10)*;

(13) the RRC controls L1 and L2 with the fourth primitive to receive MBMS announcement message at the prescribed time *(Figs. 7-10, [0088], [0089])*;

(14) after processing the message received from the CTCH accordingly, L1 and L2 forward the MBMS announcement message to the BMC with the fifth primitive *(Figs. 7-10, [0088], [0089])*; and

(15) the BMC forwards the MBMS announcement message to the MBMSC with the third primitive and the reception for this time is completed *(Figs. 7-10, [0172], [0173], [0183])*.

25. As to claim 10, Yi discloses a method for transferring a service notification of Multimedia Broadcast/Multicast Service *(MBMS)*, the method comprising:

(a) a Broadcast/Multicast Service Center (BM_SC) sends MBMS data to a Gateway General packet Radio Service *(GPRS)* Supporting Node *(GGSN) (Figs. 7-10, [0172], [0173], [0183])*;

(b) after receiving the data sent by BM_SC, the GGSN sends the data to a Service GPRS Supporting Node (SGSN) *(Figs. 7-10, [0172], [0173], [0183])*;

(c) after receiving signals from the GGSN, the SGSN informs a Universal Mobile Telecommunication System (UMTS) Terrestrial Radio Access Network (UTRAN) of forthcoming of MBMS data via a signaling message *(Figs. 7-10, [0174])*;

(d) establishing a Radio data Access Bearer (RAB) between the UTRAN and SGSN

(Figs. 7-10, [0172], [0173], [0174]);

(e) the SGSN sends the MBMS data to the UTRAN via the RAB *(Figs. 7-10, [0172], [0173], [0183])*;

(f) after receiving the data from SGSN, the UTRAN arranges time for sending a MBMS notification message *(Fig. 9, [0176])*;

(g) the UTRAN sends the MBMS notification message at a prescribed time *(Fig. 9, [0176])*;

(h) a User Equipment (UE) requests the UTRAN to allocate radio resources via a signaling message, and a plurality of other UEs can send requests to the UTRAN *(Fig. 9, [0172], [0172], [0173])*;

(i) the UTRAN allocates a radio bearer (RB) according to a number of UEs *(Fig. 9, [0172], [0172], [0173])*;

(j) the UTRAN sends the MBMS data to the UE via the RB *(Fig. 9, [0172], [0172], [0173])*.

26. As to claim 11, Yi discloses, wherein step (e), step (f) and step (g) can be performed without a certain precedence order *([0088], [0089], and [0183])*.

27. As to claim 12, Yi discloses wherein the service notification message indicates a forthcoming of specific MBMS data and includes relevant parameters related to the MBMS *([0088], [0089], and [0183])*.

28. As to claim 13, Yi discloses, wherein the step of the UTRAN sending the MBMS notification message via Cell Broadcast further comprises:

(1) a MBMS Control Module (MBMSC) receives a signaling message from a core

network nodes SGSN, CBC, which informs the UTRAN to perform a process of MBMS notification message *(Figs. 7-10, [0172], [0173], [0174])*;

(2) the MBMSC requests a Broadcast/Multicast Control (BMC) protocol *([0172])* to send the MBMS notification message *(Figs. 7-10, [0176], [0183])*;

(3) the BMC constructs the MBMS notification message and saves the message in a sending memory block thereof *(Fig. 7, element step s13)*;

(4) the BMC estimates a transmission rate (Vneed) *(the required transmission rate, col. 8, lines 65-67)* needed on a Common Traffic CHannel (CTCH) *(Fig. 3)* according to all the messages currently saved in the sending memory block, all the messages including the MBMS notification messages *(Figs. 7-10, [0176], [0183])*;

(5) the RRC *(Figs. 7-10)* controls L1 and L2 with a primitive to establish the CTCH *(Fig. 3)* or adjust the CTCH configuration so as to make a CTCH transmission rate match with the transmission rate (Vneed), and informs the BMC of the new CTCH configuration parameters *(Figs. 7-10, [0183])*;

(6) the BMC adds descriptions for the MBMS notification message to a pending-for-sending schedule message, and then the BMC arranges the MBMS notification message on a specific position of the schedule period following the schedule message for future sending *(Figs. 7-10, [0183])*;

(7) the BMC sends the schedule message *(Figs. 7-10, [0172], [0173], [0183])*;

(8) the BMC sends the MBMS notification message at the prescribed time *(Figs. 7-10, [0172], [0173], [0183])*;

29. Claims 14, 15 have similar limitations of claims 9, 10; therefore, they are rejected under the same rationale as in claims 9, 10 above.

30. Claims 16, 17 have similar limitations of claims 13, 14; therefore, they are rejected under the same rationale as in claims 13, 14 above.

31.

32. As to claim 20, Yi discloses a method of sending Multimedia Broadcast/Multicast Service (MBMS) broadcast service data in a communication system, the method comprising:

sending a Universal Mobile Telecommunication System (UMTS) Terrestrial Radio Access Network (UTRAN) *(Figs. 7-10, [0172], [0173], [0183])* a service announcement message that includes the parameters of the service types and service areas of MBMS via cell broadcast *(Fig. 6, 7, [0088], [0089])*;

the UTRAN and apparatuses *(the multimedia layer, RRC, L1/L2)* of a core network co-establish network resources for the MBMS broadcast service *(Figs. 6, 7-10, [0172], [0173], [0183])*;

the UTRAN sends service notification information for arrival of the Multimedia Broadcast/Multicast Service (MBMS) data via cell broadcast *(Figs. 7-10, [0172], [0173], [0183])*;

UMTS Terrestrial Radio Access Network (UTRAN) sends the Multimedia Broadcast/Multicast MBMS multicast service data *(Figs. 7-10, [0172], [0173])*; and

the UTRAN and other apparatuses *(the multimedia layer, RRC, L1/L2)* in the core

network co-release network resources used for the MBMS broadcast service *(Figs. 1, 3, 5, col. 4, lines 45-55; col. 7, lines 39-51; col. 8, lines 12-32)*.

33. Further references of interest are cited on Form PTO-892, which is an attachment to this action.

Conclusion

34. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAI V. NGUYEN whose telephone number is (571)272-3901. The examiner can normally be reached on 6:00-3:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DUC M. NGUYEN can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hai V. Nguyen/
Examiner, Art Unit 2618

/Duc Nguyen/

Supervisory Patent Examiner, Art Unit 2618